CONFIDENTIAL

097.3
Z1097
No. 1087

RECEIVED
NOV 12 1943

OFFICE OF STRATEGIC SERVICES
Research and Analysis Branch

AGE DISTRIBUTION OF KILLED IN THE GERMAN ARMY

O. E. W.
DOCUMENT SECURITY SECTION
CONFIDENTIAL
CLASSIFIED DOCUMENT
DEPARTMENT OF STATE
REFERENCE DIVISION
FILE COPY
PLEASE RETURN
REF

R & A No. 1087

OFFICE OF ECONOMIC WARFARE
Document Section

19 October 1943

TABLE OF CONTENTS

		Page
I.	Summary	1
II.	Methodology	1
III.	Analysis of the Age-Distribution of Dead	5
	A. Methods of Viewing the Data	5
	B. General Configuration of the Age-Distribution	8
	C. Changes in the Age-Distribution over Time	10
	D. Shifts in the Modal Class	12

Appendix:

TABLES

Table 1.	Sample of Dead in the German Ground Forces by Month of Death and Rank, June 1941-March 1943	3
Table 2.	Relative Age-Distribution of Dead in the German Ground Forces, June 1941-March 1943, and Age Distribution of the German Male Population Before War Losses	6
Table 3.	Relative Age-Distribution of Dead in the German Ground Forces by Age at Death for Seven Sub-Periods in the Total Period June 1941 - March 1943	7
Table 4.	Modal Age-Classes of Dead in the German Armed Forces, by Rank and Sub-Period or Month, June 1941-March 1943	13

CONFIDENTIAL

THE AGE-DISTRIBUTION OF DEAD IN THE GERMAN GROUND FORCES, JUNE 1941 - MARCH 1943

I. SUMMARY

The age-distribution of dead in the German ground forces was derived from obituaries of German soldiers published in those German newspapers available in Washington. For the period as a whole, roughly 65 per cent of the dead were 34 years of age or younger, indicating a very significant concentration of deaths in those ages most fit for combat duty. The estimated age-distribution of dead affords further confirmatory evidence that for this period the dividing line between those age-groups considered fit for combat duty and those used principally in a non-combat capacity falls between ages 34 and 35.

A comparison of the early months of the total period with the later months shows a very sharp decline in the percentage of total deaths in the age-group which was 20-30, inclusive, in 1941, counterbalanced principally by an increase in that age-group which was 10-19 in 1941 and to a much lesser extent by an increase in that age group which was over 30 in 1941.

II. METHODOLOGY

The data for this study have been collected from obituaries of German soldiers published in a variable sample of German newspapers. For the period from June 1941 to

January 1942, approximately fourteen papers were covered. The number of papers increased to about twenty for the period January to April 1942, to thirty-five for the period April to October 1942, and to sixty-eight for the period October 1942 to March 1943. The number of German papers read was governed solely by their availability in Washington.

Only those observations are included in the sample of deaths for which date of death, rank, branch of service, and age at death are given. The reason for these restrictions will be apparent when the method of processing the material is presented. The study covers all the Wehrmacht exclusive of the Navy and the air and ground crews of the air force.

Table 1 on the following page presents data on the number of reports of dead in the German ground forces which fulfill these conditions.

In deriving an estimate of the age-distribution of killed for a sub-period during which the newspaper coverage is fairly stable, allowance had only to be made for the "rank-bias" in the sample. On the basis of information as to the proportion of enlisted men, non-commissioned officers, and commissioned officers in the German ground forces in this war, and the relative death-rate of officers to other ranks in the German army in the last war, it would have been expected that, over a fairly long period, there would be 16.8 enlisted men and 4.4 non-commissioned officers killed for every officer killed.

Table 1

SAMPLE OF DEAD IN GERMAN GROUND FORCES, BY MONTH OF DEATH AND RANK, JUNE 1941 - MARCH 1943

Date	Enlisted Men	Non-Commissioned Officers	Officers
1941 June	172	72	117
July	568	247	255
August	546	201	215
September	435	172	189
October	340	103	114
November	273	93	75
December	430	155	147
1942 January	529	199	191
February	747	265	170
March	1,044	398	229
April	686	213	109
May	846	279	173
June	694	200	173
July	893	330	256
August	1,342	469	353
September	1,677	493	340
October	1,218	349	231
November	1,161	315	214
December	1,647	488	333
1943 January	1,055	285	237
February	551	153	124
March	165	42	43
Total	17,070	5,531	4,288

Actually the sample contains 17,070 enlisted men, 5,531 non-commissioned officers, and 4,283 officers, or 4 enlisted men and 1.3 non-commissioned officers to every officer. This represents a great under-representation of both enlisted men and non-commissioned officers in relation to officers and a slight under-representation of enlisted men in relation to non-commissioned officers. Compensation for this bias has been attempted by the introduction of weights for each of the broad rank-groups so as to establish the ratio of 16.8 enlisted men to 4.4 non-commissioned officers to one officer before the ranks were combined to yield the estimated age-distribution for each sub-period.

The observed "rank bias" is explicable principally in terms of differential social class requirements. Families from which officers stem, mainly upper middle and upper class, are those which normally would be more likely to use the newspapers as a means of informing a fairly wide circle of friends of their bereavement. On the other hand the normal means of informing friends of a death in the family in lower middle class and proletarian circles is by word of mouth.

It was brought out above that the number of newspapers from which the observations have been selected had increased quite significantly over the period. This means that, if the data were simply combined, after adjustment for " rank bias," for the purpose of deriving an estimate, of the age-distribution of killed for the whole period, the earlier periods would be

under-represented. Again this is due to the fact that the small number of observations in, for instance, July, August, and September 1941, relative to July, August, and September 1942 is not the reflection of a smaller number killed in the earlier months but simply of the fewer papers available here for the earlier period.

For this biased time-distribution of the observations in the sample, adjustment has been made with the help of an index of the relative number of men in the German ground forces killed per month, derived from an analysis of the obituary material.1/

III. ANALYSIS OF THE AGE-DISTRIBUTION OF DEAD

A. Methods of Viewing the Data

In Table 3 on the following page there are presented estimated age-distributions of dead in the German ground forces by age at death for each of seven sub-periods. In Table 2 there are presented: (1) this same age-distribution for the total period; (2) an estimated age-distribution of dead by age the dead would have been in 1942; and (3) an age-distribution of the German male population, before war losses, by age at the end of 1942. The estimated age-distribution of dead by age in 1942 is an approximation derived simply by treating those who died in 1941 as one year older in 1942 and those who died in 1943 as one year younger in 1942.

1/ For the method used in deriving this index and the results obtained, see LS-203, and R & A No. 1089.

Table 2

RELATIVE AGE-DISTRIBUTIONS OF DEAD IN THE GERMAN GROUND FORCES, JUNE 1941 - MARCH 1943, AND AGE-DISTRIBUTION OF GERMAN MALE POPULATION BEFORE WAR LOSSES

Age	(1) June 1941 to March 1943, by age at death (in per cent)	(2) June 1941 to March 1943, by Age in 1942 (in per cent)	(3) German Male Population by Age at End of 1942 (in thousands)
16	-	.05	628
17	.30	.59	659
18	2.41	2.88	651
19	7.86	6.31	654
20	10.60	8.66	685
21	10.76	9.54	730
22	8.51	10.17	743
23	5.72	6.29	566
24	3.88	3.89	372
25	4.20	3.83	360
26	4.44	4.56	398
27	5.26	5.42	530
28	5.85	5.99	677
29	5.21	5.44	696
30	5.15	5.05	719
31	4.39	4.72	688
32	3.96	4.33	719
33	3.35	3.58	733
34	2.63	2.59	732
35	1.30	1.32	720
36	1.06	1.08	716
37	.66	.69	636
38	.50	.50	690
39	.47	.44	669
40	.37	.40	686
41	.32	.37	668
42	.28	.26	638
43	.13	.14	594
44	.13	.10	556
45	.07	.08	520
Over 45	.24	.28	-
Total	100.01	100.00	19,033

Table 3

RELATIVE AGE-DISTRIBUTIONS OF DEAD IN THE GERMAN GROUND FORCES, BY AGE AT DEATH FOR SEVEN SUB-PERIODS IN THE TOTAL PERIOD June 1941 - March 1943

Age	1 June to Sept. 1941	2 Oct. to Dec. 1941	3 Jan. to March 1942	4 April to June 1942	5 July to Sept. 1942	6 Oct. to Dec. 1942	7 Jan. to March 1943
16							
17	.3	.4	.2	.3	.2	.3	.4
18	1.9	2.3	1.8	2.2	2.2	2.7	3.5
19	5.5	4.3	3.2	6.7	10.1	13.0	11.7
20	9.3	11.9	8.6	9.8	11.9	11.3	9.9
21	14.5	14.4	10.1	9.3	9.4	8.1	8.8
22	7.7	10.0	9.7	9.0	7.5	8.2	7.9
23	5.1	5.4	5.2	5.3	5.7	6.2	7.1
24	5.4	4.3	3.9	3.8	3.2	3.2	3.2
25	6.5	5.8	4.5	3.6	3.6	2.6	2.5
26	7.0	5.0	5.0	4.7	3.5	3.0	2.6
27	6.1	6.6	5.6	6.2	4.9	4.2	3.3
28	5.5	5.8	6.8	7.4	5.8	5.0	5.2
29	4.9	5.3	6.2	5.7	5.4	4.6	4.6
30	5.4	4.2	5.8	5.0	5.7	4.9	5.0
31	4.4	3.7	6.1	4.8	4.2	3.9	3.7
32	3.2	2.6	4.2	4.0	4.9	4.3	4.5
33	2.1	1.9	3.7	3.3	3.9	4.1	4.6
34	1.2	1.5	2.2	2.5	3.1	3.9	4.2
35	.6	1.2	1.5	1.3	1.0	1.5	2.2
36	.5	.9	1.7	1.2	1.1	1.2	1.2
37	.4	.3	1.1	.7	.5	.8	.9
38	.3	.4	.4	.6	.5	.7	.4
39	.5	.4	.5	.7	.4	.4	.5
40	.4	.2	.4	.3	.4	.3	.5
41	.3	.1	.4	.5	.3	.3	.4
42	.1	.2	.4	.3	.2	.3	.5
43	.1	.1	.3	.1	.1	.1	.2
44	.1	.2	.1	.2	.1	.1	.2
45	.1	-	.1	.1	.1	-	.1
Over 45	.1	.1	.3	.4	.1	.3	.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

There are two principal ways in which the results may be viewed; the approach selected depends on the question for which an answer is sought. In the case of the question "Is Germany using more young men," or "more men in the middle group age 27 - 34," or "more men over 35," the distributions should be viewed by age at death. It should then be remembered that changes in the percentage of total deaths at any given age may be due not only to the intensity with which men of this age are used but also to the fact that the very uneven age distribution of the German male population may yield a significantly different number of men of a given age at the two different points in time. For instance, war losses aside, the male class which was 21 in 1941 numbered 567,000, while the number of males age 22 in 1942 would have been 743,000.

On the other hand, if the question is asked, "What has happened to a specific age class, i.e., the class of 1920, which became 21 during 1941?" then all the data on age at death must be converted to age at one point in time so that the same birth class can be followed through time. In this case, for instance, the percentage-contribution to total deaths of those age 21 in 1941 would be compared with those age 22 in 1942 and 23 in 1943.

B. General Configuration of the Age-Distribution

Turning first to an analysis of the general configuration of the age-distribution of deaths for the total period by age at death, it can be seen that deaths in the training

ages, 17 and 18, are fairly low. The largest rise between two classes, both in absolute and relative terms, occurs between age 18 and 19. The modal classes are at ages 20 and 21. From this point, the contribution of each class to total deaths declines. The sharp decline from age 22 to 23, the trough extending through age 26, and the rise from age 26 to 27, are a reflection of the relatively small number of men in these age classes due to the birth faine during the last war.

In an earlier paper on "The Upper Age Limit of German Combat Troops,"1/ an analysis of monthly data on the age-distribution of deaths of privates and non-commissioned personnel showed that, in seventeen of the twenty-one months from July 1941 through February 1943, the largest relative decline in the number of deaths between two adjacent age classes, i.e., the absolute difference in the number of deaths in two adjacent age classes expressed as a percentage of the number of deaths in the younger age class, occurred between ages 34 and 35. An examination of the age distribution of deaths by age at death for the total period from age 28 on, i.e., after the trough caused by the bi-modal age distribution for the total male population reveals that both the largest relative and absolute decline in the number of deaths between two adjacent age classes occurs between ages 34 and 35.2/ The occurance of

---

1/ Cf. R & A No. 1087.1

2/ The test used to determine whether the observed difference between ages 34 and 35 is significantly greater than any other first difference is presented in Appendix I.

the largest absolute difference after age 27 between ages 34 and 35 confirms the conclusion that age 34 is the highest age group from which the Germans, as a matter of policy, drew troops for combat duty up to the spring of 1943.1/ For the period as a whole, only 5.53 per cent of total deaths occur at ages 35 or over, whereas 37 per cent of all men 16 to 45 are in the age group 35 to 45, inclusive.

C. Changes in the Age-Distribution over Time

Turning now to Table 2 for the purpose of analyzing the changes in the age-distribution over time, it is well known that as the classes that are 17 and 18 in 1941 grow older, their contribution to total deaths increases. Thus, the significant question here is the change through time of the contribution of men of this same age. The percentage of total deaths at age 17 scarcely changed. The percentage of total deaths at age 18 increased significantly from 1.9 per cent in the first sub-period to 3.5 per cent in the last sub-period. The most striking increase occurs at age 19, where there were 5.5 per cent in the first sub-period and 11.7 per cent in the last.2/

A comparison of the group age 20 to 26, inclusive, in the first two sub-periods, with the group age 21 to 27 in the sixth sub-period and age 22 to 28 in the last sub-period, indicates that the percentage of total deaths declines from

---

1/ Captured documents show that beginning in January 1943 the German High Command ordered that replacements in combat units should be made with men up to 37 years of age.

2/ This is discussed further in the analysis of the downward shift of the modal class.

50.0 and 56.3 per cent to 35.5 and 31.3 per cent. A similar comparison for the group age 27 to 30, inclusive, in the first two sub-periods with the group 33 to 31 in the sixth sub-period and 29 to 32 in the last sub-period indicates a decline from 21.9 per cent in both the first two sub-periods to 10.4 and 10.8 in the sixth and last sub-periods, respectively.

The percentage of total deaths in the age group which was age 31 to 34, inclusive, in 1941, increased from 10.9 and 9.7 per cent to 13.3 per cent for the group 32 to 35 in the last period of 1942 and 12.2 per cent in the group 33 to 36 in the first period of 1943.

There is very little change in the percentage of total deaths falling in that age group which was 35 and over in the first two periods, 36 and over in the sixth period, and 37 and over in the last period, the figures being respectively 3.5 per cent, 4.1 per cent, 4.3 per cent, and 3.5 per cent.

To sum up, there was a very sharp decline over the period in the proportion of total deaths falling in the age groups which were 20 - 30, inclusive, in 1941, compensated for (1) by a slight rise in deaths in the age groups which were 31 to 34, inclusive; (2) by the normal expected increase in deaths in those aged 17 to 19 in 1941; and (3) by a greatly increased deaths among those 17 - 19 in the last quarter of 1942 and the first quarter of 1943.

D. Shifts in the Modal Class

The increase in death of those 17 - 19 in the last quarter of 1942 and the first quarter of 1943 is also brought out in the examination of the shift of the modal class, i.e., the class in which the greatest number of observations fall. Table 4 on the following page presents the modal classes of the age-distribution of deaths by sub-period for all ranks combined and by month for enlisted men and non-commissioned officers.1/ Each cell in the table contains two figures, the first being the modal class and the second the next largest class.

As can be seen, the modal class for all ranks combined declined from age 21 in 1941 and the first quarter of 1942, to age 20 in the second and third quarter of 1942, to age 19 in the last quarter of 1942 and first quarter of 1943. This fact is reflected even more clearly in the monthly data for enlisted men. Thus, in 1941 and early 1942, the brunt of battle was being borne by those aged 21 and 20, i.e., men born in 1920 and 1921. In mid-1942 the heaviest load was borne by men aged 20, 21, and 19, or men born in 1922, 1921 and 1923, while, in the last half year under review, the burden had shifted to men 19 and 20, or men born in 1924, 1923, and 1922.

1/ Similar data for officers is omitted because of the absence of well-defined modes.

Table 4

MODAL AGE CLASSES[a] OF DEAD IN THE GERMAN GROUND FORCES, BY RANK AND SUB-PERIOD OR MONTH, JUNE 1941 TO MARCH 1943

Month	All Ranks	Enlisted Men	Non-Commissioned Officers
1941			
June	(	21-20	26-25
July	(	21-20	26-27
August	(21-20	21-20	26-27
September	(	21-20	27-26
October	(	21-20	25-26
November	(21-20	20-21	27-26
December	(	21-20	27-26
1942			
January	(	20-21	28-26
February	(21-22	21-20	27
March	(	21-20	27-26
April	(	20-21	26-27
May	(20-21	20-21	27-28
June	(	20-21	28-27
July	(	20-21	27-28
August	(20-19	20-19	27-28
September	(	20-19	28-27
October	(	19-20	27-28
November	(19-20	19-20	28-27
December	(	19-20	28-27
1943			
January	(	19-20	28-29
February	(19-20	19-20	28-29
March	(	19-20	28-29

a. The first figure in each cell is the age at which the greatest number of deaths occur. The second is the age class with the next largest number of deaths.

In a little less than two years the mode has shifted through four birth classes and was in the fifth, indicating the very rapid rate at which new men coming into the German ground forces were being used.

Appendix I

In applying the well-known formula $\sigma_p^2 = \frac{pq}{N}$, where σ_p^2 is the variance of the percentage at a given x value (here age), p is the percentage of total observations at the given x value, q is 1-p, and N is the total number of observations, the N used is not26,339 the total number of observations shown in Table 1, but that number which would have existed, if, given the 17,070 observations of depths of privates, there had been no "rank bias." This number is 22,515, smaller than the actual number of observations and, therefore, yielding a larger variance.

The largest observed difference in the percentage of total deaths occurs between ages 34 and 35, and the next largest between ages 33 and 34. The difference between ages 34 and 35 is 1.33 per cent and between 33 and 34 is 0.72 per cent. The null hypothesis is that the difference between these two first differences, 0.61 per cent, is not statistically significant, i.e., it could have occured solely through the operation of chance factors.

Proceeding with the test, where σ_{p33}^2 is the σ_p^2 at age 33 and σ_{p33-34}^2 is the variance of the difference of the percentages at ages 33 and 34.

(a) $\sigma_{p33}^2 = \frac{(.0335)(.9665)}{22,515} = .000001486$

(b) $\sigma_{p34}^2 = \frac{(.0263)(.9737)}{22,515} = .000001137$

(c) $\sigma_{p35}^2 = \frac{(0130)(.9870)}{22,515} = .000000570$

Since the variance of the differences is the sum of the variances,

(a) $\sigma^2_{p_{33-34}} = \sigma^2_{p_{33}} + \sigma^2_{p_{34}} = .000002503$ [2]

(b) $\sigma^2_{p_{34-35}} = \sigma^2_{p_{34}} + \sigma^2_{p_{35}} = .000001607$

And applying the same principle to get the variance of the difference of the first differences,

$\sigma^2_{p(33-34)-(34-35)} = \sigma^2_{p_{33-34}} + \sigma^2_{p_{34-35}} = .000004200$ [3]

and the standard error of the difference of the first difference is

$\sigma_{p(33-34)-(34-35)} = .00205$ [4]

Since the difference between the first difference is .0001

$z = \frac{.0001}{.00205} = 2.975$ [5]

Thus, the observed difference would have occurred solely due to the operation of chance factors only 1.5 times in one thousand. The null hypothesis must be rejected and the difference between the two differences regarded as significant. [6]

CONFIDENTIAL

097.3
Z1092
No. 1087.3

CONFIDENTIAL
78308

097.3
Z1087
No.

DEPARTMENT OF STATE
REFERENCE DIVISION
FILE COPY
PLEASE RETURN

OFFICE OF STRATEGIC SERVICES
Research and Analysis Branch

R & A No. 1087.3

AGE-DISTRIBUTION OF DEAD IN THE GERMAN GROUND FORCES, OCTOBER 1942 TO OCTOBER 1943, AND AGE-DISTRIBUTION OF PRISONERS OF WAR IN ITALY, 1 OCTOBER 1943 TO 16 JANUARY 1944

29 April 1944

- - - - - - - -

SUMMARY

Analysis of age-distribution shows that Germany has not increased the employment of men under 18 or over 37 in combat positions.

- - - - -

Supplementing information previously presented,[1] there is given in Table 2 estimated age-distribution of dead in the German Ground Forces for four such periods in the total period October 1942 through October 1943 and an age-distribution of German prisoners of war (P/Ws) taken on the Italian front from 1 October 1943 to 16 January 1944.

The estimated age-distributions of dead are derived from obituaries in German newspapers available in Washington, after adjustment for the under-representation

---

1 See "Age-Distribution of Killed in the German Army," R&A No. 1087.2.

- - - - -

This document contains information affecting the national defense of the United States within the meaning of the Espionage Act, 50 U. S. C. 31 and 32, as amended. Its transmission or the revelation of its contents in any manner to an unauthorized person is prohibited by law.

CONFIDENTIAL
COPY No. 26

73308

of enlisted men relative to non-commissioned and commissioned officers and the under-representation of non-commissioned relative to commissioned officers.[1] The obituaries are for men who died as a result of wounds, injury, or illness, with the latter two categories estimated as averaging about 5 percent of the first category. The number of observations in the sample, by month of death and rank, is presented in Table 1.

The age-distribution of P/Ws is taken from a tabulation of 2,510 enlisted men and non-commissioned officers who passed through Camp 207, Goumo Apulla, from 1 October 1943 to 16 January 1944. By contrast with the distribution of dead given above, this distribution does not include commissioned officers, and it is the result solely of battle action.

The most important conclusion derivable from the age-distributions presented in Table 2 is that Germany has not to date significantly increased the use of men under 18 or over 37 for combat purposes. Despite the fact that Germany's pool of combat manpower age 18 to 37 is being rapidly depleted and is at present insufficient to meet the needs of the German Wehrmacht, there is no evidence that older men are being substituted. The age-distribution of P/Ws shows that only 0.7 percent were under 18 or over 37. In the age-distribution of dead 2.9 percent in the period October through December

---

1 For a complete explanation of the method used see R & A No. 1087.2.

1942 and 3.0 percent in the period July through October 1943 were under 18 or over 37. Only in the relatively inactive period April through June 1943, when non-battle deaths were undoubtedly a larger percentage of total deaths than in the other periods, does the percentage of deaths under 18 and over 37 reach 5.3 percent. Thus, as in the last war,[1] despite the complete absence of men of combat age as replacements, Germany is not using men over the combat age in combat positions.

Another point which emerges from inspection of the age-distribution of dead is the increased use being made of the 18 and 19-year-olds. The decline in the percentage of total deaths in the age groups 20-30 and 31-37 was compensated by an increase in the percentage of total deaths in the group under 20.

---

1 cf. R&A No. 932, p. 3.

Table 1. SAMPLE OF DEATHS IN THE GERMAN GROUND FORCES, BY MONTH OF DEATH AND RANK, OCTOBER 1942 -- OCTOBER 1943

Date		Enlisted Men	Non-commissioned Officers	Officers
1942	Oct.	1,202	356	242
	Nov.	1,344	357	235
	Dec.	2,370	701	446
1943	Jan.	2,307	669	529
	Feb.	2,350	850	442
	Mar.	2,501	771	428
	Apr.	985	299	179
	May	841	308	175
	June	534	160	81
	July	1,545	554	436
	Aug.	606	200	194
	Sept.	190	71	101
	Oct.	112	43	101
Total		17,537	5,359	3,580

Table 2. AGE-DISTRIBUTION OF DEAD IN THE GERMAN GROUND FORCES OCTOBER 1942 - OCTOBER 1943 AND P/W's IN ITALY 1 OCTOBER 1943 - 16 JANUARY 1944

Age	Oct. Nov. Dec. 1942	Jan. Feb. March 1943	Apr. May June 1943	July, Aug. Sept. Oct. 1943	P/W's 1 Oct. 1943 15 Jan. 1944
17	3	4	3	1	1
18	26	42	52	46	32
19	128	109	130	172	152
20	118	97	100	97	155
21	84	81	66	79	70
22	79	73	61	71	72
23	59	64	60	70	65
24	31	34	33	41	50
25	26	26	22	29	26
26	30	27	22	22	19
27	42	31	24	27	25
28	48	47	40	43	23
29	46	45	50	46	32
30	48	51	43	41	49
31	42	47	47	34	36
32	44	49	45	39	44
33	44	46	41	27	33
34	42	48	41	31	45
35	17	30	35	31	32
36	11	13	21	14	21
37	9	9	15	9	12
38	7	6	10	7	2
39	4	5	8	4	1
40	3	5	8	4	1
41	3	4	5	3	1
42	4	5	6	2	1
43	1	2	2	4	-
44	1	1	3	1	-
45 & over	3	3	8	4	-
	1,003	1,000	1,001	999	1,000

0 87.3
21092
no. 1087.4 c

CONFIDENTIAL

OFFICE OF STRATEGIC SERVICES
Research and Analysis Branch

R & A No. 1087.4

AGE-DISTRIBUTION OF DEAD IN THE GERMAN GROUND FORCES

Description

An indication of the distribution by age-groups of the casualties in the German ground forces through December 1943, as revealed in obituaries in the German press.

21 July 1944

DEPARTMENT OF STATE
DIVISION OF LIBRARIES
AND
REFERENCE SERVICES
AUG 2 - 1949
REF FILE COPY
PLEASE RETURN

This document contains information affecting the national defense of the United States within the meaning of the Espionage Act, 50 U.S.C. 31 and 32, as amended. Its transmission or the revelation of its contents in any manner to an unauthorized person is prohibited by law.

This document contains information affecting the national defense of the United States within the meaning of the Espionage Act, 50 U.S.C., 31 and 32 as amended. Its transmission or the revelation of its contents in any manner to an unauthorized person is prohibited by law.

SUMMARY

Losses in the German ground forces continue to be concentrated in the age groups 18 to 37, inclusive, with no change in the percentage of total dead in the 17-year-old class and a slight increase in the group over age 37.

AGE-DISTRIBUTION OF DEAD IN THE GERMAN[1] GROUND FORCES

There is presented in Table 1, which is appended, estimated age-distribution of dead in the German Ground Forces for the three-month periods, April 1943 through December 1943, and for the total period, 22 June 1941 through 30 December 1943. For convenience of comparison there is also presented an age-distribution of the German male population as it would have been on 1 January 1944 in the absence of war dead. Quarterly age-distributions beginning with July 1941 have been presented in earlier papers.[1]

The estimated age-distributions of dead are derived from obituaries in German newspapers available in Washington, after adjustment for the under-representation of enlisted men relative to non-commissioned and commissioned officers.[2] The obituaries are for men who are known to have died as a result of wounds, injury, or illness, the latter two categories being estimated as averaging slightly less than 5 percent of the total. The number of observations available for the estimation of the three quarterly distributions is presented in Table 2, which is appended.

---

1. See "Age-Distribution of Killed in the German Army," R & A No. 1087.2, and "Age-Distribution of Dead in the German Ground Forces, October 1942 - October 1943," R & A No. 1087.3

2. For a detailed explanation of the method used, see R & A No. 1087.2.

In general the age-distributions presented here represent a continuation of trends observed in earlier data. In the final quarter of 1943, deaths of 17-year-olds were no more numerous than they had been as early as the summer of 1941. Deaths of 18-year-olds continue to be considerably more frequent in 1943 than they were in 1941 and 1942. The 19-year-olds continue to be the modal class in 1943, whereas in 1941 and 1942 the modal class was first at age 21 and then at age 20. Thus, Germany has in the main attempted to replace her heavy combat losses by the more intensive use of young troops, i. e. those 18 and 19, but not 17.

For the first time in the last quarter of 1943 there appears a sizable increase in the proportion of deaths over 37 years of age. In the first quarter, this percentage was 3.1; it was 4.9 in the second quarter, 2.6 in the third quarter and 5.0 in the last quarter. The relatively high percentage of deaths over 37 years in the second quarter of 1943 is explicable in terms of the low level of military activity and the greater incidence of deaths from illness and injury. But this same explanation does not suffice in the last quarter of 1943, since this was a period of intense activity. However, while the relative increase is great, the proportion of total deaths over age 37 is still very small and it still remains low that, despite their grave extremity, the

the Germans are not using men over age 37 in combat positions.

It is interesting to compare the percentage of total deaths at each age in the three quarters with the same percentage for the total period 22 June 1941 through 30 December 1943. Up through age 20 the value in the last three quarters exceed those for the whole period. From age 21 through age 33 the values for the whole period exceed those for the last three quarters. Again, from age 34 and over the values for the last three months exceed those for the whole period. The deaths at all ages in the younger and older group are becoming an increasing proportion of the total, and deaths at all ages in the middle group a decreasing proportion of the total.

Table 1. PERCENTAGE AGE-DISTRIBUTION OF DEAD IN THE GERMAN GROUND FORCES AND GERMAN NORMAL MALE POPULATION

Age in 1943	April, May June 1943		July, Aug. Sept. 1943		Oct., Nov. Dec. 1943		22 June 1941 to 30 Dec. 1943		Normal Male Population, 1 January 1944 (in thousands)
	(1)		(2)		(3)		(4)		(5)
17	.25		.18		.21		~~.08~~ .10		628
18	5.12		3.85		3.72		~~1.58~~ 1.74		659
19	13.38		16.17		13.88		~~5.80~~ 6.50		651
20	10.09		9.59		10.37		~~6.80~~ 7.29		654
21	6.71		6.84		6.16		~~7.94~~ 7.56		685
22	6,05		6.55		5.81		~~8.03~~ 8.48		730
23	6.07		6.46		5.40		~~9.64~~ 9.05		743
24	3.30		4.44		4.08		~~5.83~~ 5.67		566
25	2.13		2.63		2.21		~~3.75~~ 3.51		372
26	2.20		2.31		2.37		~~3.67~~ 3.44		360
27	2.31		2.90		2.66		~~4.11~~ 3.97		398
28	3.98		3.94		3.16		~~5.18~~ 4.90		530
29	4.92		4.47		4.40		~~5.72~~ 5.55		677
30	4.18		4.36		3.95		~~5.43~~ 5.28		696
31	4.68)		3.98)		4.17)		~~4.89)~~ 4.88		719
32	4.40)		4.46)		4.20)		~~4.87)~~ 4.70		688
33	4.09)		3.47)		3.73)		~~4.16)~~ 4.28		719
34	4.11)	24.37	3.87)	22.71	4.67)	26.58	~~3.68)~~ ~~22.47~~	3.86	733
35	3.53)		3.39)		3.30)		~~2.72)~~ 2.83		732
36	2.14)		2.09)		3.20)		~~1.34)~~ 1.67		720
37	1.42)		1.45)		3.31)		~~1.07)~~ 1.40		716
38	1.05)		.60)		1.05)		~~.67)~~ .71		686
39	.79)		.41)		.71)		~~.50)~~ .53		690
40	.77)		.36)		.70)		~~.49)~~ .50		669
41	.45)		.28)		.55)		.39) .41		686
42	.64)	4.90	.31)	2.57	.75)	5.01	~~.37)~~ ~~3.88~~	.42	668
43	.15)		.27)		.35)		~~.29)~~ .27		638
44	.28)		.07)		.14)		~~.14)~~ .13		594
45	.21)		.11)		.27)		~~.13)~~ .14		556
Over 45	.56)		.16)		.49)		~~.30)~~ .32		-
Total	99.96		99.98		99.97		100.03		

Table 2. SAMPLE OF DEATHS IN THE GERMAN GROUND FORCES BY MONTH OF DEATH AND RANK, APRIL 1943 THROUGH DECEMBER 1943

Date	Enlisted Men	Non-commissioned Officers	Officers
1943			
April	991	304	152
May	862	309	165
June	610	171	76
July	3,203	1,081	618
August	3,462	1,203	604
September	2,794	978	477
October	2,024	681	343
November	818	312	182
December	294	148	118
Total	15,058	5,187	2,735

097.3
Z1092
No. 1087.5

CONFIDENTIAL

RECEIVED
NOV 18 1944

OFFICE OF STRATEGIC SERVICES
Research and Analysis Branch

DEPARTMENT OF STATE
REFERENCE DIVISION
FILE COPY
PLEASE RETURN
REF

R & A No. 1087.5

AGE-DISTRIBUTION OF DEAD IN THE GERMAN GROUND FORCES, MARCH 1944

Description

An estimate of the distribution by age of dead in the German Ground Forces through March 1944 and a comparison of age-distribution, for the period July 1943 through March 1942.

This document contains information affecting the national defense of the United States within the meaning of the Espionage Act, 50 U.S.C. 31 and 32, as amended. Its transmission or the revelation of its contents in any manner to an unauthorized person is prohibited by law.

DEPARTMENT OF STATE
REFERENCE DIVISION
FILE COPY
PLEASE RETURN
REF

2 November 1944

Copy No. 46

CONFIDENTIAL

SUMMARY

Losses in the German Ground Forces continue to be concentrated in the age groups 18 to 37, inclusive, with slight increases in the 17-year-old class and in the group over age 37.

number of observations available for the estimation of the new quarterly distributions is presented in Table 2, also appended, as can be seen, the sample is more than adequate for an estimate of this type.

In general the most recent age-distributions presented here represent a continuation of trends observed in earlier data. In the first quarter of 1944 death of 17-year-olds were relatively more numerous than they had been earlier, but they were still an insignificant portion of the total. Deaths of 18-year-olds continue to become an increasing portion of the total. The 19-year-olds continue to be the most numerous class in early 1944, whereas in 1941 and 1942 the most numerous class was first at age 21 and then at age 20. Thus Germany has attempted to replace her heavy combat losses by the more intensive use of young troops, i.e. those 18 and 19, but not 17.

At the upper end of the distribution there is some increase in the proportion of total deaths over 37 years of age. Whereas in the last two quarters of 1941 and the first quarter of 1942 the percentage of total dead over 37 years of age was 2.0, 1.7, and 2.9 respectively, in the last two quarters of 1943 and the first quarter of 1944 it was 2.6, 4.1 and 5.8 respectively. Despite the increase, the propor-

AGE-DISTRIBUTION OF DEAD IN THE GERMAN GROUND FORCES, MARCH 1944[1]

There is presented in Table 1, which is appended, estimated age-distribution of dead in the German Ground Forces for the three quarters, July 1943 through March 1944, and for the total period, 22 June 1941 through March 1944. For purposes of comparison there are also presented similar distributions for the three quarters, July 1941 through March 1942. As an aid in interpreting these estimates there are further presented age-distributions of the German male population on 1 January 1942 and 1 January 1944 as they would have been without military deaths.

The estimated age-distributions of dead are derived from obituaries in German newspapers available in Washington after adjustment for the under-representation of enlisted men relative to non-commissioned and commissioned officers.[2] The obituaries, cover men who are known to have died as a result of wounds, injury, or illness, the latter two categories being estimated as averaging slightly less than 5 percent of the total. The

---

1. See "Age-Distribution of Killed in the German Army", R & A No. 1087.2, "Age-Distribution of Dead in the German Ground Forces, October 1942-October 1943," R & A No. 1087.3, and "Age-Distribution of Dead in the German Ground Forces, December 1943," R & A No. 1087.4
2. For a detailed explanation of the method used see R & A No. 1087.2

Table 1. PERCENTAGE AGE-DISTRIBUTION OF DEAD IN THE GERMAN GROUND FORCES AND NORMAL GERMAN MALE POPULATION

Age	By age at death			Normal male population 1 January 1942 (in thousands)	By age at death			Normal male population 1 January 1944 (in thousands)	Dead
	July to September 1942	October to December 1941	January to March 1942		July to September 1943	October to December 1943	January to March 1944		By age in 1943-June 1944 to March 1944
16									.07
17	0.3	0.4	0.2	651	0.2	0.2	0.7	625	.68
18	1.9	2.8	1.8	654	4.0	4.2	5.6	656	2.86
19	5.5	4.3	3.2	685	16.2	14.2	11.9	648	6.70
20	9.8	11.9	8.6	730	9.7	9.5	8.2	651	7.11
21	14.5	14.4	10.1	743	6.8	6.3	6.3	681	7.38
22	7.7	10.0	9.7	566	6.5	5.7	5.7	726	8.19
23	5.1	5.4	5.2	372	6.4	5.9	6.0	738	8.67
24	5.4	4.3	3.9	360	4.3	4.6	5.0	562	5.42
25	6.5	5.8	4.5	398	2.6	2.6	2.9	370	3.42
26	7.0	5.0	5.0	530	2.3	2.3	2.4	358	3.31
27	6.1	6.6	6.6	677	2.8	2.5	2.3	395	3.83
28	5.5	5.8	6.8	696	3.9	3.1	2.9	526	4.78
29	4.9	5.3	6.2	719	4.5	4.4	4.0	672	5.40
30	5.4	4.2	5.8	688	4.3	3.9	4.2	692	5.14
31	4.4	3.7	6.1	719	3.9	4.3	4.0	714	4.80
32	3.2	2.6	4.2	733	4.4	4.2	4.1	683	4.59
33	2.1	1.9	3.7	732	3.5	3.7	3.7	714	4.17
34	1.2	1.5	2.2	720	3.9	4.3	3.7	727	3.79
35	0.6	1.2	1.5	716	3.4	3.7	3.6	727	2.95
36	0.5	0.9	1.7	686	2.2	3.5	3.6	714	1.89
37	0.4	0.3	1.1	690	1.5	2.9	3.3	710	1.37
38	0.3	0.4	0.4	669	0.6	0.9	1.5	680	.70

tion of total deaths over age 37, is still small and it remains true that, despite the urgent need for combat manpower, the Germans were not making important use of men over age 37 in combat positions.

It is interesting to compare the percentage of total deaths at each age in the last three quarters with the same percentage for the total period 22 June 1941 through 31 March 1944. Up through age 20 the percentage in the last three quarters exceed those for the whole period. From age 21 through 34 the percentages for the whole period exceed those for the last three quarters. Again, from age 35 and over, the values for the last three months exceed those for the period as a whole. Thus, deaths at all ages in the younger and older groups were an increasing proportion of the total, and deaths at all ages in the middle group a decreasing proportion of the total.

Table 2. SAMPLE OF DEATHS IN THE GERMAN GROUND FORCES BY MONTH OF DEATH AND RANK, JULY 1943 THROUGH MARCH 1944

Date	Enlisted men	Non-commissioned officers	Officers
1943 July	3,292	1,113	636
August	3,701	1,282	639
September	3,315	1,176	565
October	3,071	1,080	461
November	2,485	904	382
December	2,136	844	317
1944 January	2,046	797	340
February	1,272	551	256
March	790	357	178
Total	22,108	8,104	3,774

Table 1 continued

Age	By age at death: July to September 1942	By age at death: October to December 1941	By age at death: January to March 1942	Normal male population 1 January 1942 (in thousands)		By age at death: July to September 1943	By age at death: October to December 1943	By age at death: January to March 1944	Normal male population 1 January 1944 (in thousands)		Dead: By age in 1943-June 1944 to March 1944
39	0.5	0.4	0.5	686		0.4	0.6	0.8	684		.55
40	0.4	0.2	0.4	668		0.3	0.6	0.8	663		.51
41	0.3	0.1	0.4	638		0.3	0.5	0.7	679		.44
42	0.1	0.2	0.4	594		0.3	0.6	0.7	662		.41
43	0.1	0.1	0.3	556		0.3	0.3	0.5	631		.26
44	0.1	0.2	0.1	520		0.1	0.1	0.2	587		.14
45	0.1	—	0.1	496		0.1	0.2	0.3	549		.12
over 45	0.1	0.1	0.3			0.2	0.3	0.3			.31
Total	100.0	100.0	100.0			99.9	100.1	99.9			

CONFIDENTIAL

CONFIDENTIAL